

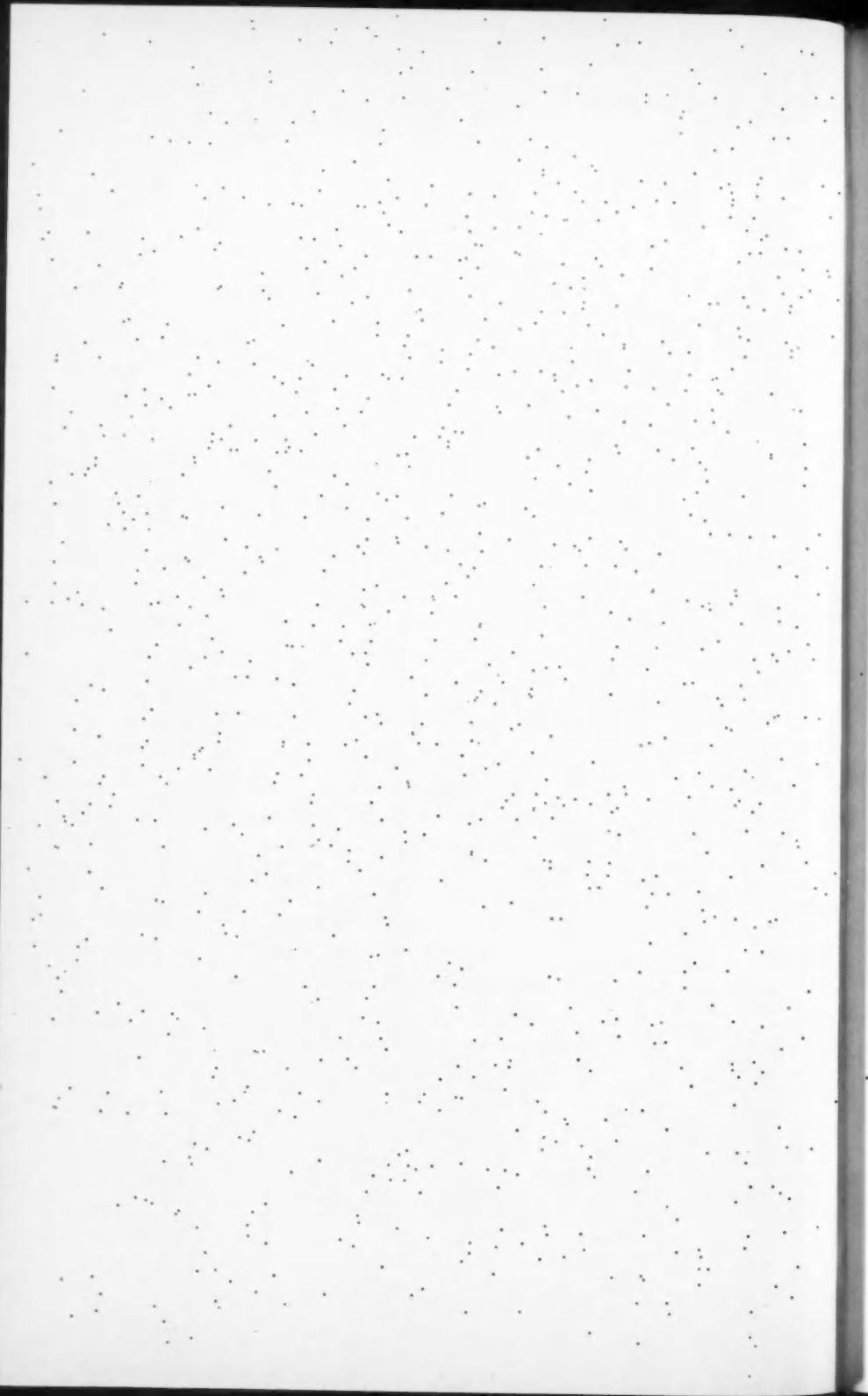
# T ELEVISION IN THE SCHOOLS

by

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## TELEVISION IN THE SCHOOLS

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OPENING of the new school year finds television occupying a firm foothold in American education. Indications are strong that the TV set will soon be as indispensable in the typical classroom as blackboard and chalk. The significant development is not that countless schools tune in—or ask their pupils to tune in at home—on occasional programs of educational merit. What is new and likely to have profound effects on American education, is that entire courses, or major elements of systematic instruction, are now being offered to school children and college students by way of the video screen. In such cases the telecast is not an educational frill; it is the heart of school instruction in a particular subject.

Educators who have considered the new medium carefully believe that it has great potentialities for improving the quality of teaching, enlarging the content of school curriculums, and extending the influence of gifted teachers. Many school administrators see in televised instruction the only feasible answer to problems posed by teacher and classroom shortages.

At the same time, nearly everyone recognizes hazards in too rapid introduction of a mechanical element at the center of the educational process. Preservation of values inherent in the personal relationship between teachers and students is deemed all-important. Education of American youth, it is generally agreed, must not be reduced to a one-way exercise in which the student is expected simply to soak up information from a TV screen.

### PUBLIC AND PROFESSIONAL SUPPORT FOR TV TEACHING

Televising instructional programs for the specific use of formally organized classes is still in an experimental stage, but the main question raised by the experiments is not *whether* TV should be used, but *how*. The executive director of the Joint Council on Educational Television

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has described the present period as the "years of discovery, debate and experimentation in how to use wisely the medium of television for the purpose of education."<sup>1</sup> Early reports on research projects, most of which date back only a year or two, overwhelmingly favor continued use of the new medium and further exploration of its possibilities.

A favorable portent for growth of television in the schools is seen in the fact that it has attracted broad local support, and in the further fact that its development is taking place in many parts of the country rather than only in a few metropolitan centers. Televised instruction is now being given to pupils and students at every level of education, from early graders in small rural schools to attendants at big universities. Virtually every subject in school and college curriculums has been taught by television, at least on an experimental basis.

Popular support for televised instruction is reflected in the growth of community-operated educational stations which carry many of the programs to classrooms. It is indicated also by the growing number of school budget allocations for TV outlays, and in the favorable attitude of parents toward televised instruction.

When a city or town becomes interested in the new instructional medium, it may find it possible to obtain outside support to initiate experimental projects. Hagerstown, Md., for example, now is in the midst of the most extensive trial of televised instruction in the country. The community was first attracted to the field when considering plans to construct a new high school. Eventually, substantial support was forthcoming from the Radio-Electronics-Television Manufacturers Association and the Fund for the Advancement of Education.

An early prejudice against television among teachers seems to be falling away. The U.S. Office of Education has commented on the phenomenal speed with which the new medium has taken hold in a profession not noted for rushing into innovations:

No other single one of the technologic media of communication has ever received such widespread recognition as a potential instructional tool in so short a time as has television. Within the few short years since World War II, television has advanced

<sup>1</sup> Ralph Steeple in address at Columbus, Ohio, May 8, 1957.

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from the status of an electronic novelty . . . to the position of a universally heralded medium of instruction.<sup>2</sup>

The federal education agency refers to television as "a mighty aid to education, waiting to be harnessed."

### PRESENT EXTENT OF INSTRUCTION VIA VIDEO SCREENS

So far only a relatively small minority of the nation's school and college enrollment has obtained significant elements of its education by means of television. But considering the newness of the medium, the degree to which it dislocates conventional school procedures, and the normal resistance to introduction of new cost items in school budgets, the number of television-taught pupils is large.

At least 47 different school systems presented instructional programs on television for classroom viewing during the 1956-57 school year. Approximately 80 colleges and universities have televised hundreds of courses, many of them for credit. It has been estimated that no fewer than 50,000 college students to date have received credit for courses viewed on TV screens.

Pennsylvania State University alone has given televised courses to 15,000 students since it started a closed-circuit project in 1954; last semester 4,200 students at Penn State were enrolled in 18 televised courses, and the TV curriculum has been expanded for the 1957-58 academic year. The educational station operated by the University of Houston and the Houston Independent School District has devoted more than 1,600 hours to direct teaching since May 25, 1953, when it went on the air; at least 50 college courses for credit have been telecast by this station to approximately 12,000 students.

Some 30,000 school children in 1,400 classrooms in central Iowa regularly view an instructional feature program broadcast by a television station operated by Iowa State College. Pupils in Pittsburgh schools have been given televised courses in arithmetic, history, geography and physics; in Lincoln, Neb., televised courses in algebra; in Oklahoma City, courses in geometry, trigonometry, and geology; and in Seattle, courses in music, art, geography, and world history. This is only a partial list of the communities where schools integrate televised teaching into their normal day-to-day procedures.

<sup>2</sup>U.S. Office of Education, *Television in Our Schools* (1956), p. 1.

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Several hundred school systems are planning to make some use of televised material in the coming year. Special interest is being shown in use of closed-circuit TV, by which a single school or school system directs instructional programs to rooms specially wired to receive them. The Joint Council on Educational Television reported in July that at least 106 educational institutions had closed-circuit facilities ready for use in the autumn.

### **FINANCIAL GRANTS TO BROADEN USE OF TV IN SCHOOLS**

New grants to schools and colleges around the country will greatly expand experimentation this year in use of television for practical educational purposes. The Fund for the Advancement of Education last May established a National Program in the Use of Television in the Public Schools and set aside \$986,000 to finance it. That sum is to be apportioned among the educational systems of eight cities (Atlanta, Cincinnati, Detroit, Miami, Norfolk, Oklahoma City, Philadelphia, and Wichita) and two states (Nebraska, Oklahoma). Instruction by TV will be tested at nearly every grade level; the chief aim will be to determine the effectiveness of televised teaching of large classes of students.

Plans call for televising high school courses in algebra, American history, biology, chemistry, English, general science, geology, health, physics, and social science. Experiments in elementary schools will be concentrated in the upper grades and cover principally American history, art, foreign languages, health, literature, music, and science. The Fund is making grants for extensive experimentation also in telecasting college courses to students both on and off the campus.

The Fund for the Advancement of Education has been a prime mover in the instructional television field for several years. Grants for experimentation in the 1954-1956 period aggregated several million dollars and included:

\$109,000 to Washington County (Hagerstown), Md., Board of Education to develop a five-year program of closed-circuit telecasting to elementary and secondary schools.

\$133,000 to Pennsylvania State University to determine the feasibility of closed-circuit instruction for large classes of college students.

\$205,000 to the Chicago Board of Education to telecast complete courses to off-campus junior college students.

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\$96,000 to the Texas Education Agency to telecast courses to qualify adults with B.A. degrees for teaching positions.

\$95,000 to the St. Louis Educational Television Commission to develop experimental programs of classroom instruction.

\$72,000 to the University of Alabama to telecast to schools and colleges over a state-wide network of educational stations.

\$32,000 to the University of Minnesota for a closed-circuit course of training for high school teachers.

The Fund ordinarily does not provide all the money needed to support a project. Allotments to cities and states for the new National Program are being made on a matching basis. Many projects financed by Fund grants receive additional support from other agencies or from school funds. Facilities of existing educational stations, which may be supported by voluntary contributions from the public, allocations from educational institutions, or government appropriations, are utilized for some projects. Local business firms, including commercial telecasting stations, frequently give money, equipment, or technical assistance to help along the experiments.

Both private and public expenditures in the general field of educational television are increasing. The Joint Council on Educational Television reported last December that \$50 million had been spent in four years to build educational stations and finance studies of educational television.<sup>3</sup> More than \$5 million had been appropriated by state legislatures; \$7 million had come from public institutions of higher learning; \$3 million had been made available by boards of education and municipal governments. Commercial broadcasters had contributed \$5 million, other private concerns or individuals \$7 million, and foundations \$25 million.

The New York legislature appropriated \$200,000 in 1956 to install closed-circuit facilities for experiments by the state education department. The South Dakota legislature in 1955 authorized expenditure of \$17,500 for such installations in the state university. A number of states have appropriated funds for educational television stations. Several states, including California, Illinois, Ohio, and Pennsylvania, have enacted legislation authorizing public schools either to participate in educational television projects or to spend money to procure telecasts.

<sup>3</sup>Joint Council on Educational Television, *Four Years of Progress in Educational Television* (December 1956), p. 5.

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### **STEADY RISE IN NUMBER OF EDUCATIONAL TV STATIONS**

The rapid growth in number of educational stations since 1952, when the Federal Communications Commission first reserved channels for them,<sup>4</sup> has reflected the keen interest of educational authorities in using television for classroom audiences. Two years after the reserved channels became available, eight educational stations had gone into operation; by the close of the 1956-57 school term last June, 24 stations were operating; now, at the opening of the new school year, 30 educational stations are ready for telecasting. Three commercial stations have been leased to educational institutions, and at least 40 communities around the country are taking steps to set up additional educational stations.

Educational stations serve a much broader function than that of telecasting programs for classroom use, but that is almost invariably one of their major undertakings. The station itself may be owned by an educational institution; the Universities of Georgia, Houston, Michigan State, Missouri, Nebraska, North Carolina, Ohio State, and Washington, and the public school systems of Atlanta, Denver, and Dade County (Miami), Fla., own or operate educational stations. Nearly all other educational stations are licensed to non-profit citizens' organizations, especially created for the purpose, in which educational institutions have strong representation. For example, WTTW is licensed to the Chicago Educational Television Association, in which eight colleges and universities and the Chicago Board of Education are represented. Eighteen educational and cultural institutions, both public and parochial, are represented in the Detroit Educational Television Foundation, which operates Station WTVS.

<sup>4</sup> The number of channels reserved for educational stations has increased from an initial 242 to 258.

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## Varied Uses of Television in Teaching

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TELEVISION has invaded the classroom in many different ways. A televised program may be only a casual addition to classroom teaching, or it may be the heart of a lesson for a day or a term. A school may merely receive a course worked out elsewhere by teachers unconnected with it, or it may actually produce televised courses primarily or solely for the instruction of its own students.

Television may be simply the channel through which a school conveys a standard lesson or course, unchanged from what it would be without electronics, to a larger than usual number of students. Or the new medium may be utilized, with fresh teaching techniques and a different organization of materials, to make a more vivid and effective presentation than is possible by conventional methods.

### TELEVISING OF COLLEGE COURSES FOR HOME VIEWERS

Televising complete courses of study over open channels extends the reach of available educational facilities and personnel to the largest possible number of potential students. When a so-called "telecourse" is given on an open system, it may be watched by anyone in the signal area with access to a receiving set. But if the viewer wants credit toward a diploma or degree, he has to register with the sponsoring institution, turn in required reports, and take final examinations. He must also pay the usual fees. In many cases a registered home student receives syllabuses and study guides.

The four public junior colleges of Chicago last year telecast five courses for off-campus students, who went to one or another of the colleges only for final examinations. New York University will present a literature course this term under a similar plan. The University of Detroit is starting its first full schedule of freshman courses (English, history, psychology, Spanish, etc.) for home-viewer students, who will come to the campus for discussion, recitation, and examinations. Each of these programs is experimental, organized to test results.

Although some telecourses are put on the air by commercial stations, it is more feasible for schools or colleges

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to offer them through educational stations. N.Y.U.'s literature course is to be telecast by a commercial station, but at an odd hour: 6:30-7 A.M. This is said to be good timing for students with jobs during the day, but it would hardly be suitable for standard college scheduling. Lack of control over timing of telecasts from commercial stations is one of the chief reasons why educators have sought their own facilities for classroom programs.<sup>5</sup>

Commercial television contributes to educational television in other ways. The National Broadcasting Company gave \$300,000 to produce three courses which, together with two courses produced by the Educational Television and Radio Center,<sup>6</sup> offer five half-hours of specialized education for 26 weeks. The courses in economic geography, government, literature, mathematics, and music were launched last spring and are to be resumed this autumn. The telecasts originate in the New York studios of N.B.C. and are carried by non-profit educational stations, hooked up to N.B.C. network lines.

### **CLASSROOM-TV INSTRUCTION OVER CLOSED CIRCUITS**

The chief advantage of a closed-circuit system is that it gives an educational institution full control over programming and greater opportunity to get the most out of television as a teaching tool. Such a system, however, requires the purchase of considerable equipment for producing, distributing, and receiving programs: cameras, coaxial cables, video switching systems, synchronizing generators, audio control consoles, picture and sound wave monitors; sound-film projectors, studio lighting systems, microphones, and many other technical items. It also requires the employment of a technical staff to assist in production and projection of the educational program.

Costs of closed-circuit systems vary with the size of the project. Miami University in Oxford, Ohio, spent \$35,000 to equip a production studio and five nearby classrooms to receive programs. The greater the distance between

<sup>5</sup> A U.S. Office of Education survey showed that in the school year 1955-56 a total of 531 program series, ranging in length from 13 to 39 weeks, were presented by educational institutions through commercial facilities; 59 of the series were full telecourses and 77 were designed specifically for classroom use. Agencies sponsoring the programs included eight state departments of education, 15 county school systems, 67 city school systems, 160 colleges or universities, 13 teachers' colleges, and five parochial school systems.

<sup>6</sup> A non-profit organization, located at Ann Arbor, Mich., which distributes educational programs.

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production and receiving points, the greater the expense. To construct and equip a studio in one building and equip eight classrooms for reception in another building cost New York University about \$105,000.<sup>1</sup>

The most extensive closed-circuit system in the country is that at Hagerstown, Md. As set up originally in 1956, it had 12½ miles of cable and 22 amplifiers to link two senior high schools, six elementary schools, the county museum of fine arts, and the public library to the TV center in the office of the Board of Education. The circuit has been extended for the 1957-58 year to seven more grammar schools. By September 1958 it is to cover all county schools—five secondary and 20 elementary—with a total of 18,000 pupils.

Closed-circuit systems may involve only a simple and relatively inexpensive one-camera arrangement for showing close-ups of small objects for demonstration purposes, or they may have all the scope and flexibility of commercial television. Addition of a two-way audio system, permitting students to address the TV teacher and receive direct replies, adds substantially to the cost. Color is another costly feature beyond the reach of most school budgets.

Color on closed-circuit systems has been most frequently used for medical education. The Walter Reed Army Medical Center in Washington, D. C., has installed color cameras in its surgical, autopsy, veterinary, and dental suites for instruction of its personnel. The University of Michigan is reported to be equipping its medical school with a color TV system for demonstrating and teaching surgical and clinical procedures.

### **COMBINATIONS OF TELEVISED AND "LIVE" INSTRUCTION**

One of the big questions before schools and colleges experimenting with TV is: How much of a course can feasibly be produced on TV? In some cases, televised courses cover everything except supplementary reading; in others only partial elements of a course are given.

At Penn State entire courses in psychology, sociology, music, meteorology, and air science are televised. In other subjects (accounting, economics, education, French, Ger-

<sup>1</sup> New York University, *Closed-Circuit Television as a Medium of Instruction, 1955-1956* (October 1956), p. 33.

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man, and industrial engineering) only lectures and demonstrations are televised, while supplementary instruction is given in small discussion sections, usually led by graduate students. Students at Washington University in St. Louis, who took algebra and trigonometry over television last year, could view the course at various times during the day or evening and in addition had access to "help sections" staffed by faculty assistants prepared to assist individual students.

It is being increasingly recognized that certain functions of teaching cannot be conveyed by the best of teachers on a television screen. "Live" teachers still are needed to guide discussion, take up individual problems, conduct examinations, and so on. N.Y.U. gives a combined TV-and-live course in English composition; basic principles are presented in televised lectures, and the principles are discussed in small student groups. Miami University at Oxford, Ohio, has experimented with a variety of combinations of TV and live teaching. Five members of the faculty joined to give a sociology course featuring televised lectures and non-televised discussion. The University of Detroit's freshman courses this year are to include televised lectures; registered students will come to class once or twice a week for quiz, discussion, and face-to-face consultation.

Most schools or colleges produce their own telecourses with their own teachers. Occasionally a "master teacher" program produced elsewhere may be used. A high school physics course telecast to Pittsburgh pupils last year was given by Harvey E. White of the University of California. Frequently described as a "master course" because of Dr. White's teaching gifts and the wealth of illustrative material used, this course was filmed with the aid of a \$500,000 grant from the Fund for the Advancement of Education; it is being offered for sale<sup>8</sup> this year for presentation by ordinary film projectors or television.

Employment of televised materials to supplement classroom instruction entails little departure from educational custom. So used, the TV set merely takes its place among numerous so-called audio-visual aids, such as pictures, maps, charts, slides, films, phonograph records, radio broadcasts. Because of its scope and flexibility, however, television is regarded as a superior medium for curriculum enrichment.

<sup>8</sup> For \$13,000 in black and white, \$25,000 in color.

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The Committee on Television of the American Council on Education has listed some of the ways in which televised programs may be used for this purpose:

The televised materials . . . might involve, for example, the presentation of experiments in physics using costly or rare equipment; oral drill in French for elementary grades; short segments from a Shakespearean play done by professional actors; visits to great art galleries, museums, industrial plants or zoos; demonstrations by great musicians, painters, sculptors, writers, farmers, mechanics, or others; short statements by great teachers, scholars or public figures; descriptive scenes showing various parts of the world, industrial or governmental processes, bits of contemporary history.

The Hagerstown project employs television for curriculum enrichment as well as direct instruction. Penn State uses it in metallurgy courses to show enlargements of specimens, and in speech classes for practice work. In some of the larger classes, only demonstrations and illustrations cited in the professor's lecture are televised, so that students may clearly observe them from numerous receiver sets placed about the room.

Television is widely used also for teacher training. It enables teacher trainees to observe classrooms in operation without actually visiting them. A number of school systems employ television for in-service programs. In Dade County, Fla., teachers of mathematics receive instruction by TV on how to use new methods and new textbooks. The Houston public school system telecasts programs to teachers in their schools directly after classes are dismissed. Cincinnati public schools likewise put on in-service training programs dealing with subjects of practical interest to teachers.

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### **Television and the Future of Teaching**

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INTEREST in television as a medium of instruction has been enhanced by its capacity for extending the reach of the available supply of teachers and teaching facilities. It thereby promises to be of substantial assistance in meeting the problem of assuring an adequate education for the greatly enlarged school population anticipated in the near future. A well known school administrator recently

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summed up the critical educational problem which television is counted upon to help solve:

Here the schools are in the midst of a time when they need not only more teachers than we dreamed a few years ago . . . , but also a higher level of teaching. There are not only more persons to be educated but also there is so much more that must be learned, and much that must be learned is more complicated and difficult to learn than before. Further . . . there are not enough teachers to do the teaching even as it has been done, and not enough school space in which to do the teaching. Moreover, many of the building facilities are outmoded and ill-adapted to the needs of a modern program of education.

In the midst of this rather gloomy picture has come television. What part it can and may play in the whole process of education, formal or informal, is not very definite and certain at the present time. . . . This we do know—television is a powerful means of communication.<sup>9</sup>

The Fund for the Advancement of Education has asserted that "The sheer magnitude of the educational task in America will drive us to develop more efficient ways of deploying our available teaching force."<sup>10</sup> School administrators in recent years have been seriously concerned about the need to develop new ways to attain what they call "better utilization of staff." This means improvement in quality of teaching along with stretching teacher-hours over a larger number of pupils. Even those who are not enthusiastic about television as an educational instrument think it must necessarily be used eventually, and that schools are under obligation now to develop techniques that will enable them to get the most out of the new medium. It is for this reason that many of the current experiments, particularly those supported by the Fund for the Advancement of Education, are devoted primarily to methods of improving instruction in classes which are larger than is normally the case.

Hagerstown school authorities have been reported as believing that the ratio of one teacher to every 30 pupils, long accepted as a goal in public schools, can be "increased without adversely affecting either the learning process or the probably over-rated teacher-pupil relationship."<sup>11</sup> History lessons have been given in Hagerstown to as many as 82 high school pupils in a large room equipped with four

<sup>9</sup> Alexander J. Stoddard, *Schools for Tomorrow: An Educator's Blueprint* (January 1957), pp. 26-27.

<sup>10</sup> Fund for the Advancement of Education, *A Report for 1954-1956* (June 1957), p. 22.

<sup>11</sup> Carl Bakal, "The Schools of Tomorrow," *Saturday Review*, Aug. 24, 1957, p. 35.

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TV sets and supervised by one teacher. However, experimentation in class sizes there still has a long way to go before firm conclusions are drawn.

### EFFECTIVENESS OF TEACHING BY MEANS OF TELEVISION

Nearly all surveys of televised teaching indicate that students can learn as well when their instruction comes from a video screen as from a teacher in the classroom. Television may have the advantage if the alternative is an unusually large conventional class. No objective tests, however, can measure the intangible benefits of person-to-person instruction.

Reports on the more carefully controlled experiments usually stress the need for caution in accepting favorable verdicts. The report on experiments in St. Louis, for instance, said that test ratings of ninth graders who took composition and science over television were about on a level with those of pupils taught in the conventional manner, but it added: "Effective teaching involves intangibles which are not capable of being measured by objective tests."<sup>12</sup> Experiments at Penn State showed that "uniformly and consistently . . . students make approximately the same scores on carefully prepared tests when taught directly and when taught over television." Still, the directors of the program felt more should be done "to supplement and complement TV instruction to advance the general academic and personal development of students."<sup>13</sup>

Student attitudes toward televised instruction vary but are not marked by strong feelings for or against. Students at Miami University indicated a preference for conventional small classes but were willing to enroll in any section, TV or not, "if it assured them of an instructor of known excellence." Some students felt more remote from a "live" teacher in a large class than from a teacher in close-up views on the video screen.

Faculty opinion also is divided but is likely to be expressed in more positive terms. Frequently prejudice against television, grounded in TV's association with commercial entertainment, is dispelled by experimentation in the classroom. A questionnaire circulated among members

<sup>12</sup> St. Louis Public Schools, *An Investigation of Television Teaching* (September 1956), p. 44.

<sup>13</sup> C. R. Carpenter, "TV for Higher Education," *State Government*, June 1957, p. 128.

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of the N.Y.U. English Department, before its experiment in TV teaching began, disclosed that a majority thought English courses would be less effective when given on television. At the end of the first year's experiment, Prof. Oscar Cargill, head of the department, wrote:

It is extremely difficult to free oneself wholly of a subjective attitude in viewing so radical an experiment as instruction in fundamental subjects by so new a medium as closed-circuit television. Yet it was the combined judgment of the English staff . . . that the experiment [in teaching literature] . . . had been a success.<sup>14</sup>

It was found that three times as much material could be presented in the 50-minute period before the camera as in the usual class hour. "There is no denying," Cargill noted, "that students got a better course by television than they would have got in any other way."

The effectiveness of televised teaching may depend on the course given. A good deal of experimentation is now going on to determine which subjects are best suited to the medium. The N.Y.U. group, however, deliberately chose one subject deemed unsuited to television—English composition—because it was considered important to discover new techniques for teaching so basic a course to large numbers of students with less expenditure of the time of teachers.

#### **TECHNICAL DEMANDS OF NEW MEDIUM OF INSTRUCTION**

Critics of televised instruction say that it converts teaching into a TV show. Defenders of the new method reply that television merely carries the teacher's art to a larger number of students. Any adaptations characteristic of showmanship are made in the interests of more effective teaching. Most persons agree that a degree of adaptation is necessary to produce best results.

An article addressed to the TV teacher pointed out that "The technical considerations surrounding a television program can immeasurably assist or ruin a telecourse, depending upon how willing a teacher is to develop a teaching pattern somewhat different from that which he has employed in regular classroom teaching." The teacher must observe certain basic rules "to facilitate the technical work of the director, cameraman, and others whose primary

<sup>14</sup> New York University, *Closed-Circuit Television as a Medium of Instruction, 1955-1956* (October 1956), p. 20.

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concern it is to present the teacher and his subject clearly and interestingly.”<sup>15</sup>

A televised lesson has to fit an exact time schedule. It must have no blank moments. No digressions from the planned presentation are permissible. A certain amount of movement is helpful, but the instructor's movements must be slow and smooth; if he leaps up from his chair without warning, his head may go off the screen. Close-ups of illustrative material or blackboard demonstrations must be planned in advance and the teacher must be careful not to get between the camera and what is being shown.

An experienced TV teacher told a recent meeting of educators that his course in “The Religions of Our Day” was “not the same on TV as in the classroom.”

Converting a good, classroom course to a good television course is not a matter of shifting it intact from a classroom to a studio. It is like crumpling up a jig-saw puzzle whose pieces can be fitted together in more than one way and figuring out the new and untried way they must be assembled.<sup>16</sup>

A Miami University report noted that “An average college lecture unbroken by the use of props and ‘changes of pace’ and with no opportunity within the receiving rooms for students to ‘get into the act’ comes out even duller than it went in.”

There must be something more exciting on the picture tube than 50 minutes of straight lecture. Special procedures and materials must be developed which will utilize those advantages which television has over the large auditorium lecture, and which will minimize or overcome its deficiencies; otherwise it is doomed to failure as a teaching medium. . . . Television has real possibilities in the teaching of large groups if instructors have the ingenuity and personality to adapt procedures and materials to the medium.<sup>17</sup>

Directors of the N.Y.U. experiment observed that “College teachers in general are quite unprepared to teach by television.” Many of them “feel lost outside the classroom where they have a face-to-face relation with their students.” Most schools and colleges employing television have staged workshops to prepare teachers in use of the new medium. The N.Y.U. group felt not only that teachers

<sup>15</sup> David C. Stewart, “A Teacher’s Guide to Telecourse Production,” *The Speech Teacher*, November 1955, p. 271.

<sup>16</sup> Huston Smith Before American Council on Education, Washington, D. C. Reprint of address in *Educational Record*, January 1956.

<sup>17</sup> Miami University, *Experimental Study in Instructional Procedures* (Oct. 1, 1956), p. 44.

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needed help in learning how to teach over television, but also that students needed to be taught how to learn from a TV screen.

### **INFLUENCE OF TELEVISION ON BASIC TEACHING METHODS**

Even if television fails to become the big thing in education that its supporters expect, the present period of experimentation is likely to have a lasting influence on American teaching. Discussions among educators on the most effective ways to use the new medium have stirred up a ferment of ideas on how to improve teaching of various subjects. Experiments in televised instruction have uncovered not only the limitations of the medium but also the shortcomings of current teaching methods. Changes in techniques or in organization of materials for the televised course often have been found to improve the course when given without TV.

Experiments with television, particularly at the college level, have afforded occasions for re-assessing standard classroom procedures. Traditional barriers against critical observation of one another's classes by faculty members are necessarily set aside when teachers get together to plan a televised course. It has been suggested that "It could well be that TV's main contribution [to education] lies in its catalytic effect which has stimulated and encouraged a re-examination of the processes of teaching and learning."<sup>18</sup>

Television gives inexperienced teachers unprecedented opportunities to observe masters of their profession in action. Television is responsible for growing emphasis on the various other "audio-visual aids" to stimulation of the learning process. So far has this process gone that conservative educators have expressed fear that the textbook may have seen its day as the basic tool of the classroom. Some decry development of televised instruction as the death knell of the classroom teacher and of the precious give-and-take between teacher and student. The American Federation of Teachers has opposed telecourses as threatening technological displacement of teachers.

Nothing in the experiments to date, however, indicates that the day of the classroom teacher is nearing a close. What seems more likely to happen is that the functions

<sup>18</sup> Ralph Steeple before Institute for Education by Radio-Television, Columbus, Ohio, May 8, 1957.

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of the teacher will be divided among several specialists on the teaching staff. There is already talk of a "teacher team" which would include the teacher who delivers lectures by television to large numbers of students, the teacher who assembles and prepares demonstration material, and the teacher who "lives with" the pupils and helps preserve the personal touch in teaching.

Many persons are of opinion that television will lead the way toward the long-sought elevation of the teacher's economic and social status by creating the new figure of the "master teacher" whose televised courses reach hundreds, thousands, even millions of students. Such a teacher could command a generous salary and be relieved of burdens not related to production and presentation of instructional material. Other teachers, less highly paid, or teachers' aides would perform the regular classroom duties.

What remains to be seen is whether better presentation of basic courses of study would compensate for removal of the best teachers from the classroom, or whether schools would have to employ just as many highly qualified classroom teachers. What appears to be certain is that use of television promises to improve substantially one function of education; the purely instructional function. It promises also to "provide one effective answer to the vital nationwide problem of teacher, classroom, and money shortages that threaten to cause progressive deterioration of our schools . . . in the next decade."<sup>19</sup>

<sup>19</sup> Carl Bakal, "The Schools of Tomorrow," *Saturday Review*, Aug. 24, 1957, p. 9.

